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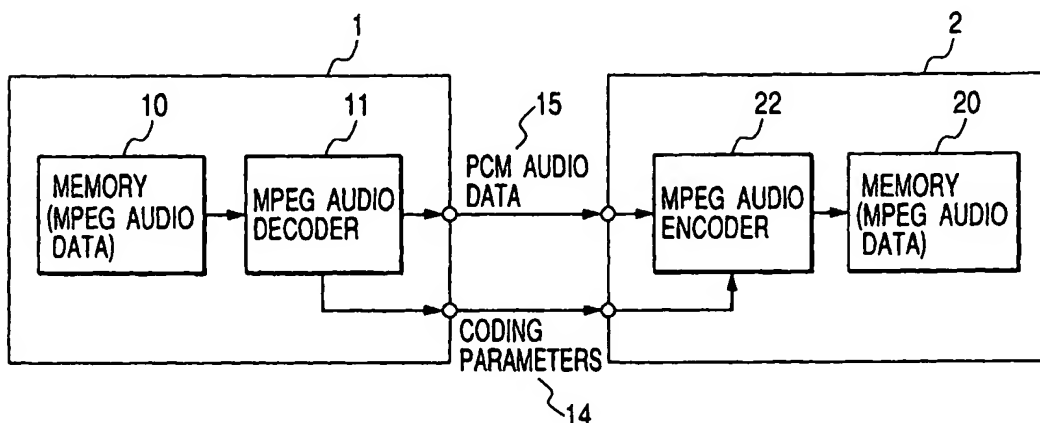
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(54) **Optimising audio coding through re-encoding**

(57) In a digital audio system, a first audio unit has its audio decoder adapted to decode coded digital audio data to get coding parameters including information of frame borders of the audio data and release the decoded digital audio data and coding parameters. A second audio unit which receives the digital audio data and cod-

ing parameters has its audio encoder adapted to re-encode the digital audio data by using the coding parameters. The re-encoding process by use of the best or highly optimized coding parameters, which have been used for original coding, restores the same state of audio data, and the reduction of coding errors can be expected.

**FIG. 1**



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## EUROPEAN SEARCH REPORT

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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Y	* page 1, lines 1-8 * * page 2, line 10 - page 3, line 3 * * page 3, lines 14-16; figure 1 * -----	6,7	
A	LANCIANI C A ET AL: "Psychoacoustically-based processing of MPEG-I layer 1-2 encoded signals" MULTIMEDIA SIGNAL PROCESSING, 1997., IEEE FIRST WORKSHOP ON PRINCETON, NJ, USA 23-25 JUNE 1997, NEW YORK, NY, USA, IEEE, US, 23 June 1997 (1997-06-23), pages 53-58, XP010233896 ISBN: 0-7803-3780-8 * abstract * * page 56, paragraph 6 - page 57, paragraph 1 *	1-3	
Y	US 5 664 018 A (LEIGHTON FRANK THOMSON) 2 September 1997 (1997-09-02) * abstract * * column 1, paragraph 1 * -----	6,7	TECHNICAL FIELDS SEARCHED (Int.Cl.7)  G10L
<del>The present search report has been drawn up for all claims</del>			
Place of search <b>Munich</b>		Date of completion of the search <b>9 December 2003</b>	Examiner <b>Greiser, N</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

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### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-7, 9-10



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**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-7,9-10

Digital audio system

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2. claim: 8

Digital audio system using digital watermarking

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
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09-12-2003

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82